

IN THE ABSTRACT:

Please enter the attached substitute abstract of the Disclosure for that originally filed with this application.

ABSTRACT OF THE DISCLOSURE

The present invention relates to an assay system, kits and methods for detecting microorganisms (especially for *M. tuberculosis*) of suspected patient. The present invention also relates to an apparatus for performing the integration of thermal and magnetic control in the same apparatus to largely reduce the whole process of *M. tuberculosis* detection to less than 5 hours.